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Date: March 19, 2015

## More Fraction Powers

Directions: Evaluate each expression.

$$10^{-2} = \frac{1}{100}$$

$$\left(\frac{1}{2}\right)^{-4} = \left(\frac{2}{1}\right)^4 = 2^4 = 16$$

$$5(3)^{-2} = \frac{5}{3^2} = \frac{5}{9}$$

$$4(2)^{-4} = \frac{4}{16} = \frac{1}{4}$$

$$\left(\frac{2}{5}\right)^{-1} = \frac{5}{2}$$

$$10\left(\frac{2}{5}\right)^{-1}$$

$$9\left(\frac{2}{3}\right)^3 = 9\left(\frac{8}{27}\right) = \frac{8}{3}$$

$$\frac{2}{5}\left(\frac{4}{5}\right)^{-2} = \frac{2}{5}\left(\frac{5}{4}\right)^2$$

$$= \frac{2}{5} \cdot \frac{25}{16}$$

$$= \frac{10}{16} = \frac{5}{8}$$

$$10\left(\frac{5}{2}\right)$$

$$\frac{5(5)}{25}$$

$$10,000^{1/4}$$

$$\sqrt[4]{10000} = 10$$

$$16^{3/2} = 64$$

$$\left(\frac{1}{125}\right)^{-2/3}$$

$$(125)^{2/3}$$

$$(125^{1/3})^2$$

$$27\left(\frac{4}{9}\right)^{5/2} = 27\left(\frac{32}{243}\right)$$

$$= \frac{32}{9}$$

Challenge

$$49^{0.5} = 7$$

$$(\sqrt{2})^{10} = 2^5 = 32$$

$$(\sqrt[3]{12})^{14} = \left(12^{1/3}\right)^{14} = 12^2 = 144$$

$$\left(\frac{9}{16}\right)^{1.5} = \frac{27}{64}$$

## Percents Practice Work

**Directions:** Take out your Percents FAQ sheet. I won't answer any questions unless you have it out and ready!

1) Find 120% of 50.

60      50% of 120 is the same value  
 $\frac{1}{2}$  of 120 is 60.

2) Find 6.25% of 35.

2.1875

$$\begin{array}{r} .0625 \\ 35 \\ \hline 3125 \\ 18750 \\ \hline 2.1875 \end{array}$$

2.1875

3)

The sales tax in Santa Clara County is 9.25%. Including tax, how much does it cost to buy a camera that sells for \$200?

$$9.25\% (200) + 200 = 18.50 + 200 = \$218.50$$

4)

I took 200 mg of Advil for my headache. After some time passed, the amount of Advil in my system decreased by 45%. How much is left in my system?

$$45\% (200) + 200 = 90 + 200 = \$290$$

5)

The amount of money in your bank account has grown from \$2500 to \$4200 since the last time you checked. What percent increase is that?

$$\frac{\text{Change}}{\text{original}} = \frac{1700}{2500} = \frac{17}{25} = \frac{68}{100} = 68\% \text{ increase}$$

6)

There is this sweater that I want to buy, and it originally cost \$40. Now, the price is down to \$26. What percent did the cost decrease by?

$$\frac{\text{change}}{\text{original}} = \frac{14}{40} = \frac{7}{20} = \frac{35}{100} = 35\% \text{ decrease}$$